IN THE CLAIMS:

Please substitute the following claims for the same-numbered claims in the application:

1-5. (Canceled).

6. (Previously Presented) An integrated circuit comprising:

a device to be monitored; and

a carbon nanotube field effect transistor (CNT FET) proximate to said device to be monitored, wherein said CNT FET is adapted to detect defective circuits within said integrated circuit,

wherein said device to be monitored comprises:

a gate;

a source region;

a drain region; and

a gate insulator layer separating said gate from each of said source region and said drain region.

7. (Original) The integrated circuit of claim 6, wherein said CNT FET comprises:

a CNT FET gate;

a CNT FET source region;

a CNT FET drain region; and

a carbon nanotube separating said CNT FET source region and said CNT FET drain region.

8. (Original) The integrated circuit of claim 7, wherein said gate of said device to be monitored and said CNT FET gate comprise a shared structure.

9. (Original) The integrated circuit of claim 7, wherein said source region of said device to be monitored and said CNT FET source region comprise a shared structure.

10. (Currently Amended) The integrated circuit of claim 6, wherein said device to be monitored comprises ~~any of~~ a field effect transistor~~, a diode, a wire, a via, a resistor, an inductor, and a capacitor~~.

11. (Previously Presented) An integrated circuit comprising:

a primary transistor; and

an embedded carbon nanotube field effect transistor (CNT FET) spaced apart from said primary transistor,

wherein said CNT FET is adapted to measure physical characteristics within said integrated circuit, and

wherein said CNT FET is adapted to measure stress and strain in said integrated circuit, wherein said stress and strain comprise any of mechanical and thermal stress and strain.

12. (Previously Presented) The integrated circuit of claim 11, wherein said CNT FET is adapted to sense signals from said primary transistor, and wherein said signals comprise any of temperature, voltage, current, electric field, and magnetic field signals.

13. (Canceled).

14. (Original) The integrated circuit of claim 11, wherein said CNT FET is adapted to detect defective circuits within said integrated circuit.

15. (Original) The integrated circuit of claim 11, wherein said primary transistor comprises a metal oxide semiconductor configuration.

16. (Currently Amended) An integrated circuit comprising:

a primary transistor; and

an embedded carbon nanotube field effect transistor (CNT FET) spaced apart from said primary transistor,

wherein said CNT FET is adapted to measure physical characteristics within said integrated circuit, ~~and~~

wherein said primary transistor comprises:

a gate;

a source region;

a drain region; and

a gate insulator layer separating said gate from each of said source region and said drain region[[.]], and

wherein said CNT FET comprises:

a CNT FET gate;

a CNT FET source region;

a CNT FET drain region; and

a carbon nanotube separating said CNT FET source region and said CNT FET drain region.

17. (Cancelled).

18. (Currently Amended) The integrated circuit of claim ~~17~~ 16, wherein said gate of said primary transistor and said CNT FET gate comprise a shared structure.

19. (Currently Amended) The integrated circuit of claim ~~17~~ 16, wherein said source region of said primary transistor and said CNT FET source region comprise a shared structure.

20. (Currently Amended) The integrated circuit of claim 11, wherein said primary transistor comprises ~~any of~~ a field effect transistor~~, a diode, a wire, a via, a resistor, an inductor, and a capacitor~~.

21-25. (Canceled).

26. (New) The integrated circuit of claim 10, wherein said field effect transistor comprises any of a diode, a wire, a via, a resistor, an inductor, and a capacitor.

27. (New) The integrated circuit of claim 20, wherein said field effect transistor comprises

any of a diode, a wire, a via, a resistor, an inductor, and a capacitor.